



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/655,954	09/06/2000	ROBERT TINGLEY	DPL-005-(6209/7)	8524

21323 7590 07/09/2002

TESTA, HURWITZ & THIBEAULT, LLP  
HIGH STREET TOWER  
125 HIGH STREET  
BOSTON, MA 02110

EXAMINER

LAU, TUNG S

ART UNIT	PAPER NUMBER
----------	--------------

2863

DATE MAILED: 07/09/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/655,954

Applicant(s)

TINGLEY ET AL.

Examiner

Tung S Lau

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- a. Claims 1-8, 11-18, 20-25, 28-44 and 46-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levesques et al. (U.S. Patent 5,392,652) in view of Thompson et al. (U.S. Patent 4,092,868).

Levesques discloses a wave launcher inspection system, a method of inspecting pipeline, and determining a location of pipeline, determine characteristic of pipeline, wave launcher in communication with pipeline to transmit an input waveform along longitudinal axis of pipeline, receive a reflected waveform (col. 4, lines 39-68, fig. 6), analyze the waveform using processor to determine the characteristic of the pipeline (col. 5, lines 1-24), determine the point of the defects (col. 6-7, lines 50-8), calculating a mathematical function, determining a model mathematical function of reflected energy or characteristic energy of a input waveform (col. 9, lines 1-53), to determine anomaly included crack in pipeline (col. 1-2, lines 7-18), determine the shape and location of the defect (col. 6-7, lines 50-8), determine axial curvature of

Art Unit: 2863

the pipeline (col. 1, lines 5-12), cross sectional (fig. 8), range of frequencies dominant mode of pipeline (col. 8-9, lines 22-31), use of plurality of signals (col. 5, lines 49-56), detect velocity in reflected components along longitudinal axis (col. 9, lines 3-31), use of electromagnetic waveform (col. 2, lines 34-46), acoustic wave (col. 1, lines 5-12).

Levesques does not compare the waveforms model is lossy. Thompson compares the waveforms (col. 3-4, lines 62-15), model is lossy (col. 1-2, lines 56-27), to accurate detect the size and shape of the defects in metal (col. 1, lines 56-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Levesques to have the comparison of the waveforms and use of model is lossy taught by Thompson in order to accurate detect the size and shape of the defects in metal.

Levesques not does disclose the use of an ideal model and the analyzer to be temperature stable, but it would have been obvious to one of ordinary skill in the art at the time the invention was made to know to use an ideal model and the analyzer to be temperature stable for perfect condition simulation.

**b.** Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Levesques as applied to claims above and further in view of Robert R. Unterberger (U.S. Patent 3,634,753)

The Levesques combination disclose a method including the subject matter discussed above except the probe antenna and the antenna physical contact the test subject, Robert R. Unterberger disclose such application (col. 3, lines 29-70), to use in a frequency modulated application (col. 2, lines 12-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to know to modify Levesques to have the probe antenna and the antenna physical contact the test subject taught by Robert R. Unterberger in order to use in a frequency modulated application.

**c.** Claims 19 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Levesques as applied to claims above and further in view of Jean et al.(U.S. Patent 5,455,516).

The Levesques combination disclose a method including the subject matter discussed above except input waveform above a cutoff frequency of the test subject, Jean disclose such application (col. 6, lines 13-30), to provide a superior sensitivity and selectivity application (col. 5, lines 39-44)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to know to modify Levesques to have the input waveform above a cutoff frequency of the test subject taught by Jean in order to provide a superior sensitivity and selectivity application.

d. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Levesques as applied to claims above and further in view of Gnauck et al. (U.S. Patent 5,303,079).

The Levesques combination disclose a method including the subject matter discussed above except the use of spread waveform, chirp and soliton waveform, Gnauck disclose such application using soliton (col. 1, lines 25-38), chirp parameter (col. 2, lines 24-29), spread spectrum waveform (col. 8, lines 24-42), to minimize the transmission power penalty (col. 2, lines 24-29).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to know to modify Levesques to have the use of spread waveform, chirp and soliton waveform taught by Gnauck in order to minimize the transmission power penalty.

Art Unit: 2863

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309.

The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John S Hilten can be reached on 703-308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TL



JOHN S. HILTEN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800